IN THE UNITED STATES PATENT AND TRADEMARK OFFICE


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| Application No. | : | 10/534,394 |
| Applicant | : | Bartosz Krzysztof Wasilewski |
| Confirmation No. | : | 2861 |
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| Examiner | : | Doan, Phuoc Huu |
| Customer No. | : | 27896 |
| Docket No. | : | 0470.0011C (MSK0010-US) |
| Title | : | Statistical Scaling of Soft Decisions before Decoding |

## PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
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Sir:

Further to the Notice of Appeal filed herewith, and prior to the filing of an Appeal Brief, Applicant respectfully requests review of the following rejection:


- Claims 12-19 under 35 U.S.C. §103(a) as being unpatentable over Antia (US 6,347,124) in view of Attallah (US 2002/0168013).


This is the <u>second</u> appeal of this application in connection with a rejection based on Antia. Unfortunately, the Examiner has failed to appreciate a fundamental difference, <u>pointed out multiple times to date</u>, between the presently claimed invention and the disclosure of Antia.

Specifically, the presently claimed invention generates a scale factor based on already-scaled signal values (i.e., **post**-scaling), whereas Antia discloses deriving a scale factor from signal values that have not yet been scaled (i.e., **pre**-scaling). This distinction -- post-scaling versus pre-scaling -- is clear and significant, and makes Antia irrelevant to the claims of this application.

Furthermore, not only does the secondary reference, Attallah, not cure the deficiencies of Antia, but Attallah also fails to disclose the features that the Examiner asserts that Attallah discloses.

### 1. Antia fails to disclose "monitoring the probability distribution of the amplitudes of the <u>scaled</u> signal values"

Independent claim 12 (and claim 16) recites "(b) monitoring the probability distribution of the amplitudes of the **scaled** signal values." "Scaled" signal values are those that have already gone through a scaling process. That is, the required monitoring step is performed with respect to post-scaling signal values.

The Examiner cites to col. 5, lines 10-45 of Antia's specification as allegedly disclosing this feature of the claimed invention.

The cited passage discloses nothing about post-scaling monitoring. Specifically, Antia only describes techniques where the scale factor is derived from signal values **pre-scaling**. This is clear from Figure 3 of Antia where the calculation of the average signal value (step 44) applies to the signal **prior** to the scaling being applied (step 48). This is also clear from the description in Antia at columns 4 and 5. Equation 1 therein clearly indicates that the average value is derived from the signal s(n) which is **before** the scaling is applied (the scaling is described in equation 3 and shows the scaled signal s^ being derived from s).

Thus, for this reason alone, any rejection of the claims predicated on Antia must be withdrawn.

### 2. Attallah fails to disclose "monitoring the <u>probability distribution of the amplitudes</u> of the scaled signal values including <u>generating a parameter based on the probability distribution <u>that is not grossly effected by amplitude saturation of the signal values</u>"

Even if one were to ignore the basic pre-scaling versus post-scaling deficiency of Antia, contrary to the assertion made by the Examiner, Attallah does not disclose monitoring the "probability distribution of the amplitudes," as required by the claimed invention (claims 12 and 16).

Cited paragraphs [0046]-[0050] of Attallah disclose a probability distribution transformer 110 for transforming the probability distribution of a MCM (multi-carrier modulation) signal. The probability distribution transformer 110 is used to transform the probability distribution of

the MCM signal. However, the probability distribution transformer 110 is not desribed as being used to generate a parameter that is then used to adjust a scale factor, as required by step (c) of, e.g., claim 12.

Furthermore, the parameter generated in claimed step (b) of present claim 12 is based on the probability distribution that is not grossly effected by **amplitude saturation** of the signal values. Attallah does not disclose anything of this sort.

Accordingly, Attallah fails to disclose expressly recited features of the claims.

3. **Antia fails to disclose the claimed feature of claims 13 and 17 of "calculating a complementary cumulative probability density function for a signal value magnitude"**

Page 4 of the specification explains that a parameter based on the cumulative probability density function (CDF) of the scaled signal is used as a scaling factor. That parameter is defined as the complementary CDF, or 1-CDF, or Q.

The Examiner cites to Antia at col. 5, lines 1-45 as allegedly disclosing the calculation of this specific parameter. However, there appears to be nothing in the cited passage having to do with taking the complement of any value, let alone a cumulative probability density function, as is required by the claim language.

Accordingly, Antia again fails to disclose specific features required by the pending claims.

In view of the foregoing, reconsideration and withdrawal of the pending §103(a) rejections of the claims are respectfully requested.

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